

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (canceled)

2. (canceled)

3. (canceled)

4. (canceled)

5. (canceled)

6. (canceled)

7. (canceled)

8. (canceled)

9. (canceled)

10. (canceled)

11. (canceled)

12. (canceled)

13. (canceled)

14. (canceled)

15. (canceled)

16. (canceled)

17. (canceled)

18. (canceled)

19. (canceled)

20. (canceled)

21. (canceled)

22. (canceled)

23. (canceled)

24. (Currently Amended) A method of segmenting a label switched path (LSP) present in a multi-protocol label switching (MPLS) network, the LSP having an ingress label switched router (LSR), an egress LSR and intermediate nodes, the method comprising steps of:

determining a subpath to be segmented in the LSP;

defining segments in the subpath based on the OAM capability of said intermediate nodes; and

associating a label to each segment defined in the subpath.

25. (Currently Amended) The method of claim 24, wherein:

the ingress LSR and the egress LSR have a predetermined an OAM capability;

at least a subset of said intermediate nodes are LSRs having the predetermined an OAM capability; and

the step of defining segments in the subpath includes defining segments between LSRs having the predetermined the OAM capability.

26. (Original) The method of claim 25, further comprising a step of notifying nodes in the LSP of the segmentation of the subpath.

27. (Original) The method of claim 26, wherein notifying the nodes includes providing information to the nodes regarding a processing of data transfer units (DTUs) labeled in accordance with the labels associated with the segments of the subpath.

28. (Original) The method of claim 27, wherein notifying the nodes is effected with a label distribution protocol (LDP).

29. (Currently Amended) The method of claim 27, wherein the DTUs includes information processible by LSRs having the predetermined an OAM capability.

30. (Original) The method of claim 26, wherein the nodes include LSRs lacking the predetermined capability.

31. (Original) The method of claim 27, wherein the information includes routing information.

32. (canceled)

33. (canceled)

34. (Currently Amended) A method of routing a data transmission unit (DTU) in a multi-protocol label switching (MPLS) network containing a path between an ingress node and an egress node, the method comprising steps of:

determining a subpath of the MPLS network, the subpath to be traveled by the DTU;

defining labeled segments of the subpath based on the OAM capability of nodes in said subpath;

defining a label for the DTU in accordance with the labeled segments of the subpath; and

binding the label to the DTU.

35. (Original) The method of claim 33, wherein the DTU includes operation and maintenance (OAM) information.

36. (Currently Amended) A method of determining a performance of path within a multi-protocol label switching (MPLS) network, the method comprising steps of:

generating a data transmission unit (DTU) having operation and maintenance (OAM) information;

determining a subpath of the MPLS network, the subpath to be traveled by the DTU;

defining a labeled segment in the subpath based on the OAM capability of a node in said labeled segment;

defining a label for the DTU in accordance with labeled segments of the subpath;

binding the label to the DTU; and

inputting the DTU to the MPLS network, ~~the predetermined path having nodes for processing the DTU OAM information for determining to be processed by said OAM capable node to determine~~ the performance of the labeled segments of the subpath of the MPLS network.

37. (cancelled)

38. (Currently Amended) The method of claim 3536, wherein the OAM information includes a time stamp, the nodes determining a transit time of the DTU along the subpath in accordance with the time stamp.

39. (Currently Amended) A label switched router (LSR) of a multi-protocol label switching (MPLS) network, the LSR for routing data transmission units (DTUs) in the MPLS network and for assessing a performance of the MPLS network, the LSR comprising:

an input module for receiving DTUs from an upstream node;

a switch for receiving the DTUs from the input module and for switching the DTUs;

an output module for receiving the DTUs from the switch and for transmitting DTUs to a downstream node; and

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a processor for defining a label for the DTUs in accordance with labeled segments of a subpath and for binding the label to the DTU, said labeled segments having been defined based on the OAM capability of a node within said segments.